

## INDUSTRY NOW ON SAFE BASIS

Manufacturer Says That  
Auto Business Is Enter-  
ing Prosperity

"The automobile industry has adjusted itself to the new world conditions, has gotten down to a safe and sane basis, and is ready to enter into a period of prosperity and development hitherto undreamed of," says William C. Durant, president of the Durant Motors, Inc.

"When this country reached the end of its riot of post-war extravagance and found that it must rein in expenditures of go bankrupt, the automobile industry faced a real problem. It had to justify its existence. The trade came to realize that the cost of operating an automobile must be reduced in line with the general retrenchment, or it would pass out of the necessity class and into the luxury group. The initial cost of cars had to be cut, and in addition, the cost of operation lowered to a point where automobile transportation was an economy as well as a convenience.

### MOTOR TODAY ECONOMY CAR

The automobile industry has faced the problem manfully and solved it during the past year. Automobile prices have been pretty thoroughly liquidated. By reducing weight and applying the best engineering principles to construction, a more economical car has been evolved. The motor of today is essentially an economy car and admirably suited to the need of the hour. The automobile industry has again justified itself.

"In the years ahead this country is due for a tremendous expansion. One of the gravest effects will be the taxing of present transportation facilities to the utmost. Our railroad system is admittedly in a bad condition and executives of large systems state that it will be a long time before railroads can get back on their feet. The motor car will have to fill the breach.

"The motor truck had demonstrated its ability as a common carrier. In the years to come it will have to carry a larger and larger percentage of the country's freight. Its outstanding economy in short hauls and its perfect flexibility make it an ideal carrier. We look to see our transportation system undergo a marked change in the next few years. Our great railroads will not be put out of business, but they will confine themselves more and more to the long haul traffic, and the motor truck will take up the burden of short haul transportation.

"The growth of bus lines and of motor freight lines in the last five years has been phenomenal, yet it is only a beginning of the developments that are to come. Coincident with this growth will come the evolution of the field for the passenger automobile. A greater and greater scope of utility will open up for it. Every development that will lower the price and the cost of operation will create a wider market for automobiles because it will bring them within the reach of more potential buyers. The talk about 'saturation point' is nonsense. The only limits to the automobile field are the ones that the manufacturers and dealers set up about themselves.

"The money problem and many other snags are being gradually removed and it is only a question of time before the United States will be enjoying the prosperity toward which we may all look with confidence."

### USE COMPRESSION IN HILL BRAKING

Some motorists appear to have the mistaken notion that it is harmful to the engine to use the compression as a brake in going down steep hills, says Scientific American. Shut off the engine and leave the gears in mesh, so that the wheels drive the engine against the compression in the cylinders. Be sure that the throttle is closed. This will help to save the service and emergency brakes from excessive wear. If greater braking power than that afforded by the high speed position of the gears is needed shift into second or low, the braking effect being increased as you step down because the rear wheels drive the engine faster.

One-piece steel wheel has been invented, including rim, spokes, hub and brake drum.

## MIND SHARK TO ASSIST COACH

Mysteries of Headwork on  
Teams Will Be Delved  
Into at College

URBANA, Ill., March 24.—The increasing importance of psychology in athletics is indicated by the recent addition of a representative of the department of psychology to the faculty advisory staff of Coach Zupke at the University of Illinois, and the establishment of a research organization to delve into the mysteries of "head-work" on the gridiron diamond and track.

Dr. Coleman R. Griffith, associate in psychology at the university, has undertaken the task of exploring the new field, which promises to have an important bearing upon future coaching practice. Results already have demonstrated the value of the work, in the view of Illinois athletic officials. Following a full year's experimentation on the local campus, in which psychic aspects of all the major sports will be studied, a text book on the subject will be compiled, and a course for future coaches and athletes developed for inclusion in the university curriculum which will attempt to explain the psychological phenomena of competitive games.

### HELP IN PASSES

The work of Dr. Griffith will be seen first as a factor in the gridiron clashes of the Illinois team next season, when the athletes, who for years have appeared in dark blue jerseys, will be attired in blending combinations of orange, canary yellow and white. The change is ordered by the simple physiological fact that in looking from the corner of the eye only certain colors are visible. The football star, in picking a man for a pass will be greatly aided by the rainbow-like dress of his teammates. The baseball pitcher, basketball player and track entrant, all of whom also are forced to rely to a great extent upon indirect vision for the success of their play, will be helped by the new uniforms.

One of the most interesting of a series of experiments will be made this spring when Dr. Griffith will subject every member of the football squad to an exhaustive series of tests through which he will attempt to determine the personnel of the 1922 conference eleven.

### DETERMINES REACTION

Another plan of interest to the coach is that to determine reactions in the players. By combining the data on a large number of athletes Dr. Griffith has established an average reaction time for competitors in the various departments of sports, as an index of relative mental and muscular speed. The tests are made with a unique instrument, the Vernier Chronoscope, which measures time in thousandths of a second and may be made visual or tactile to determine the various types of reaction. Numerous experiments are planned to develop other phases of psychology as related to athletics.

The course which Dr. Griffith is formulating will present data revealing cross sections of the player's mind at various moments in the game, and will urge the practical application of psychology to the coaches' everyday problems. Such questions as action, attention, instinct, emotion, memory and personality will be treated and the problems of fight, selection, morale and mental health approached from a new angle.

Until he can make an exhaustive study of athletes under all conditions, Dr. Griffith refuses to call his findings science, but to state his prophecies have checked so well with the results obtained on the gridiron that Director of Athletics Huff and his staff have great hopes for the future of "The Psychology of Athletics."

### MOTORBUS USED FOR CHILE CAR

A motor bus line is superseding the horse-drawn street cars in Iquique, Chile. The buses are American chassis, equipped with locally made bodies. They seat fourteen persons and are arranged with a front entrance, on the pay-as-you-enter plan, so that no collector is needed. The fare is 20 centavos (about 2 cents at present exchange), while the fare on the street car is 40 centavos.

## AUTO INCREASE SEEN IN YEAR

People Accustomed to Closer  
Time Schedule as Result  
of Owning Cars

"It is interesting to see everywhere this year, the increased number of motor cars in use all through the winter. And it is also interesting to note the causes which have brought this condition about, says one of Ogden's automobile dealers.

"In the first place, people are more dependent upon motor transportation than ever before. Those who own cars have arranged their time on the basis of automobile use. They are accustomed to doing more in a day than before. In some cases they have established their homes in locations best accessible by motor car. To be deprived of their automobiles for several winter months would mean uncomfortable changes in their very habits of living, a falling back upon the use of inferior conveyances, a loss of the personal independence which winter always brings in its train.

"Because of this people are not putting up their cars for the winter as they used to do. Once they have driven cars the year round they never think any more about doing without their cars at any time.

"Of course automobiles are being built better today than ever before. They are being improved all the time. Every year finds them better able to meet all kinds of traveling conditions. Owners, too, have become more and more familiar with what their cars will do. They expect more and they get it. It is true also that better streets and roads in all parts of the country have helped to increase the winter use of motor transportation.

"As a matter of fact it is when the weather is cold or is disagreeable otherwise that the use of an automobile is most enjoyable as well as practical. And in recent winters motor cars have proved their ability to transport their owners, when and where other means of conveyance have failed.

"This is especially true of the light, yet sturdy and powerful car, the type that is proving the most convenient and economical for general use at all times. It has the advantages over heavier cars through snow and other usual winter road conditions.

"The development of closed cars of this type has had a very great influence in the increase of motor car use in winter. When you consider that you can enjoy all the comforts of the closed car in any weather, together with all the superior advantages of dependability and economy of light open cars it is impossible to see why anyone should deprive himself of motor transportation through the winter. In fact, it is easy to see why the practice of winter driving is increasing in popularity.

"Even closed cars are within the means of practically everyone. And people are buying them, now, at this time of the year, for use this spring and next fall and winter. And it is due to the present low price of quality, completely equipped cars of both open and closed types that you are going to see more automobiles in use next winter than ever before."

### ENOUGH GAS FOR NEXT 100 YEARS

Even at present rates of consumption there is enough gasoline in sight to last at least 100 years, and many big operators are discouraging all boring operations, as reserve stocks were never so high. The United States and Alaska alone contain 7,000,000,000 barrels, and there is Mexico, with its full flowing and apparently inexhaustible fields. South America, the new strikes made in north-west Canada close to the famous Klondike regions, and the tremendous possibilities held out by Siberia, whose soft in many places, fairly reeks of oil, and according to the natives, far in the north there is a tremendous lake of oil.

Ammunition works in Germany are now manufacturing automobiles and automobile parts.

Too much priming causes gasoline to wash the oil from the piston and cylinder walls.

# Studebaker

## BIG-SIX \$1785

f. o. b. Factory

## Comparison is the Fairest Test

Set it side by side with any car, irrespective of price and judge. That's the way to buy a car. See what each has to offer at its price before you make up your mind. It's the only way to be sure you're getting just what you want—and it surely is the only way to appreciate how much you get in this seven-passenger Studebaker at its price of \$1785.

And it's a test that Studebaker is eager to have you make. For when you stand this new BIG-SIX side by side with other cars,

you'll find it gives you all, in quality of material and workmanship, that you can get in any car regardless of price—and infinitely more than you can get in any car at the same price.

On every hand the thousands of BIG-SIX owners have found in this car everything they considered essential to complete motoring satisfaction. This is another reason why Studebaker is the world's largest builder of six cylinder cars.

### MODELS AND PRICES

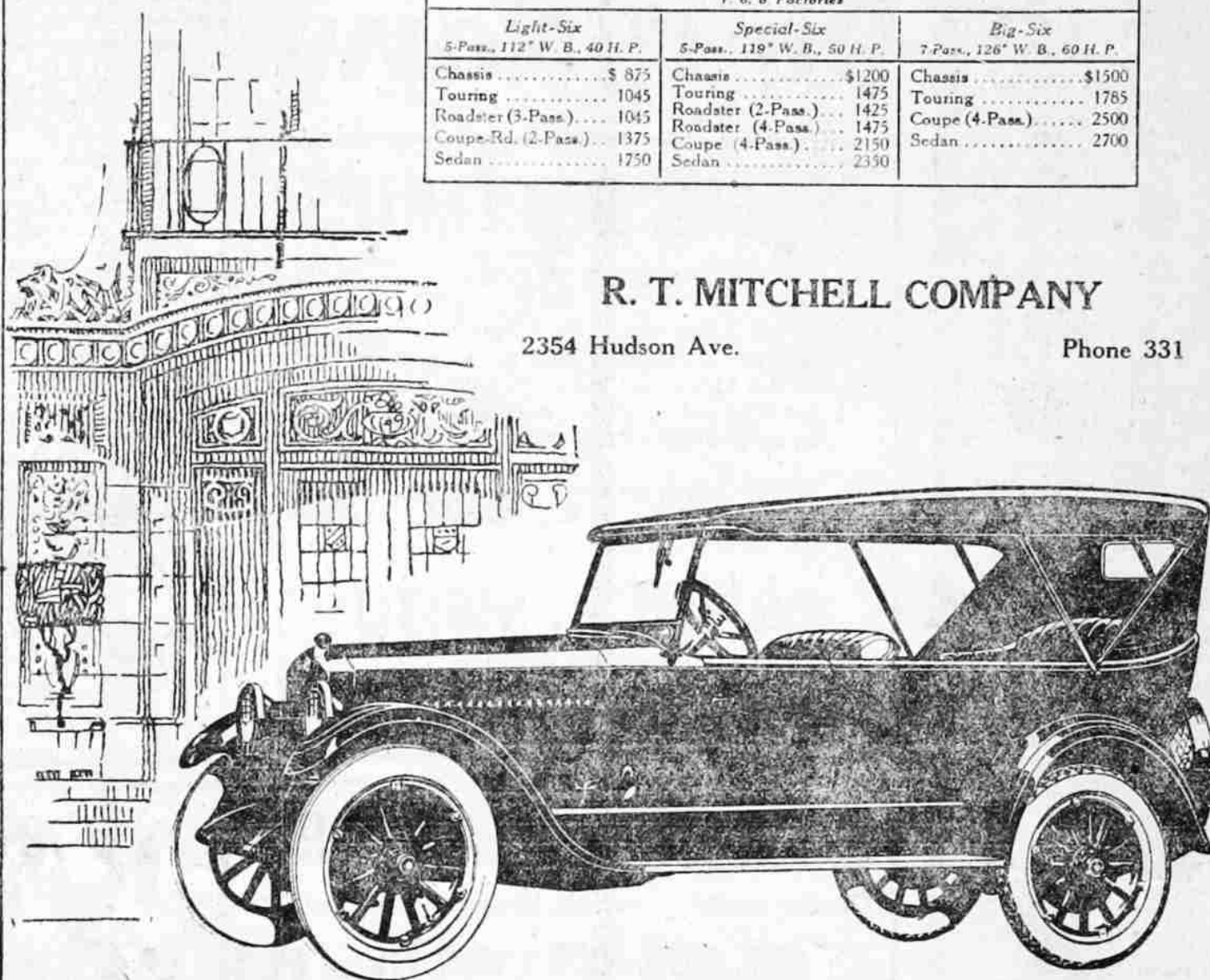
f. o. b. Factory

Light-Six 5-Pass., 112" W. B., 40 H. P.	Special-Six 5-Pass., 118" W. B., 50 H. P.	Big-Six 7-Pass., 126" W. B., 60 H. P.
Chassis.....\$ 875	Chassis.....\$1200	Chassis.....\$1500
Touring.....1045	Touring.....1475	Touring.....1785
Roadster (3-Pass.)...1045	Roadster (2-Pass.)...1475	Roadster (4-Pass.)...2500
Coupe-Rd. (2-Pass.)...1375	Coupe (4-Pass.)...2150	Sedan.....2700
Sedan.....1750	Sedan.....2350	

### R. T. MITCHELL COMPANY

2354 Hudson Ave.

Phone 331



THIS IS A STUDEBAKER YEAR

## SIZE OF BOXER NOT ESSENTIAL

Man Doesn't Need to Be  
Giant to Win Title,  
Greb Says

By HARRY GREB  
Conqueror of Tommy Gibbons.

A fighter doesn't need to be a giant to be a champion. Because I am shy of the six-foot mark by several inches, and don't weigh in the neighborhood of 200 pounds, I suppose a lot of people are not taking me seriously as a heavy-weight contender.

There was Bob Fitzsimmons, he didn't weigh much more than I do, yet he was reckoned as one of the greatest fighters the ring has ever produced.

Fitzsimmons made the big fellows like Jim Jeffries, Tom Sharkey, Gus Ruhlin and the rest like it.

True, Jeffries twice knocked him out, but before the finish Jeffries knew that he had been in a real battle.

Joe Wolfcott measured only a few inches over five feet, yet Wolfcott constantly gave away from 15 to 20 pounds in weight and often as much as a foot in height.

Despite his size Wolfcott was certainly a fighter if there ever was one.

I have no desire to compare myself with either Fitzsimmons or Wolfcott. I simply speak of these two great fighters to prove that one need not be a giant to be a fighter or a champion.

When Jack Dempsey was matched to meet Jesse Willard the bout was ridiculed by a lot of fight critics. Most of the fight fans thought Willard was too big for Dempsey.

In the Toledo bout Dempsey, who was a little man compared to Willard, proved that size wasn't the only thing needed to be a fighter. Willard probably still remembers the lacing he took that evening.

When I was matched to fight Gibbons the public viewed the bout in much the same manner as it did the Willard-Dempsey go.

Gibbons, with an advantage of 10 pounds in weight and four inches in height, was regarded as far too husky for me to have a chance with him.

I feel that I demonstrated the folly of size being a fighter's most important asset.

There are a few other things a fighter must have besides size, among them being aggressiveness, footwork, cleverness and courage.

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Motor car licenses of 274 persons in Pennsylvania were revoked and refused renewal this year.

### SAL SODA CLEANS COOLING SYSTEM

Clogging the cooling system may be prevented by cleaning it at least twice a year with sal soda. Dissolve about two pounds of it in hot water and pour into the radiator, running the car as usual. After a day's use, drain the radiator and fill with clean water, changing the water again the next day. This will remove the sludge that forms in the system, especially the radiator.

### EQUAL DANGER OF BLOWING OUT GAS

The danger in running an engine in a small closed garage equals that of blowing out the gas, says Professor Yandell Henderson of Yale. A car produces one cubic foot or more of the deadly carbon monoxide gas a minute. In a small closed garage, Professor Henderson calculates, the exhaust from a car can contaminate the air to a deadly concentration within three or four minutes.

### TEMPERATURE HAS EFFECT ON FINISH

Changes in temperature exert an extremely unhappy effect on the finish of the car because of the differences in the coefficients of expansion of metal and paint and varnish. To insure the highly finished surfaces from cracking the car should be housed in a garage maintained at a nearly uniform degree of temperature.

# ESSEX

## It Now Holds This Price Advantage

Essex quality quite naturally creates an expectancy of high price. Compared on every hand to costly cars it would be strange if many did not fall into that error.

Thus actual price comparisons give Essex true value in sharp relief.

How many of the cars in the Essex price range do you ever embrace in the same thought with it in regard to fineness, ability and distinction?

And do not the cars that you consider in the Essex quality class invariably cost hundreds of dollars more?

In reaching a standard by which to understand Essex values you must consider such price contrasts, as well as facts bearing on ability and dependance. Such examination will convince you also of the unusual value the Essex represents.

OGDEN MOTOR CAR CO.

2345-55 Hudson Ave.

Phone 460



# GATES TIRES

The Tire with the Wider and Thicker Tread

### Where Your Tire Dollar Goes---

Whatever tire you buy, 30 cents out of each dollar goes into rubber tread, while 70 cents buys sidewall, fabric or cord.

Good business, isn't it, to give that 70 cents all the protection that is possible?

That's the idea of the wider and thicker rubber tread of the Gates Super-Tread Tire. Wider and thicker—more rubber to wear, better protection for the costly fabric—more miles for your dollar.